

What is claimed is:

1. A stage assembly that moves a device along a Y axis, the stage assembly comprising:

a device stage that retains the device;

a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the Y axis; and

a first follower frame that supports the device stage, the first follower frame moving along the Y axis.

2. The stage assembly of claim 1 wherein the stage mover assembly moves the device stage along an X axis relative to the first follower frame.

3. The stage assembly of claim 1 further comprising a first follower mover that moves the first follower frame along the Y axis.

4. The stage assembly of claim 3 wherein the first follower mover moves the first follower frame along the Y axis substantially concurrently as the stage mover assembly moves the device stage along the Y axis.

5. The stage assembly of claim 1 wherein the first follower frame includes a stage channel for receiving a portion of the device stage and a pair of opposed stage fluid bearings that support the device stage relative to the stage channel and allow device stage to move along an X axis relative to the first follower frame.

6. The stage assembly of claim 1 further comprising a first follower guide that supports the first follower frame.

7. The stage assembly of claim 6 further comprising a first pair of opposed, guide fluid bearings and a second pair of opposed, guide fluid bearings that support the first follower frame relative to the first follower guide along an X axis and along a Z axis and allow for movement of the first follower frame relative to the first follower guide along the Y axis.

8. The stage assembly of claim 1 wherein the first follower frame supports the device stage near a first table side of the device stage.

9. The stage assembly of claim 1 further comprising a second follower frame that supports the device stage along the Z axis, the second follower frame moving along the Y axis.

10. The stage assembly of claim 9 wherein the first follower frame and the second follower frame are moved substantially concurrently with the device stage along the Y axis.

11. The stage assembly of 9 wherein the first follower frame supports the device stage near a first table side of the device stage and the second follower frame supports the device stage near a second table side of the device stage.

12. The stage assembly of claim 11 wherein the stage mover assembly includes a first Y stage mover and a second Y stage mover and the follower frames are positioned between the first Y stage mover and the second Y stage mover.

13. The stage assembly of claim 9 wherein the first follower frame and the second follower frame support the device stage in a kinematic manner.

14. The stage assembly of claim 1 wherein the device stage includes a first table section and a second table section that is movable relative to the first table section to separate the device stage.

15. The stage assembly of claim 14 wherein each of the table sections retains at least one device.

16. The stage assembly of claim 1 further comprising a line that is connected to the device stage, the line being secured to the first follower frame.

17. The stage assembly of claim 16 wherein the line provides fluid to the device stage.

18. The stage assembly of claim 16 where the line carries electrical current.

5 19. An exposure apparatus including the stage assembly of claim 1.

20. A device manufactured with the exposure apparatus according to claim 19.

21. A wafer on which an image has been formed by the exposure apparatus of claim 19.

22. A stage assembly that moves a device along an X axis and a Y axis, the stage assembly comprising:

a device stage that retains the device;

a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the X axis and along the Y axis;

a first follower frame that supports the device stage along a Z axis; and

a first follower mover that moves the first follower frame along the Y axis substantially concurrently with the movement of the device stage along the Y axis.

20 23. The stage assembly of claim 22 further comprising a pair of opposed stage fluid bearings that support the device stage relative to the first follower frame and allow device stage to move along the X axis and along the Y axis relative to the first follower frame.

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24. The stage assembly of claim 22 further comprising a first follower guide, a first pair of opposed, guide fluid bearings and a second pair of opposed, guide fluid bearings that support the first follower frame relative to the first follower guide along the X axis and the Z axis and allow for movement of the first follower frame relative to the first follower guide along the Y axis.

25. The stage assembly of claim 22 further comprising a second follower frame that supports the device stage along the Z axis, and a second follower mover that moves the second follower frame substantially concurrently with the device stage along the Y axis.

26. The stage assembly of 25 wherein the first follower frame supports the device stage near a first table side of the device stage and the second follower frame supports the device stage near a second table side of the device stage.

27. The stage assembly of claim 25 wherein the first follower frame and the second follower frame support the device stage in a kinematic manner.

28. The stage assembly of claim 22 wherein the device stage includes a first table section and a second table section that is movable relative to the first table section to separate the device stage.

29. The stage assembly of claim 28 wherein each of the table sections retains at least one device.

30. The stage assembly of claim 16 further comprising a line that is connected to the device stage, the line being secured to the first follower frame.

31. The stage assembly of claim 30 wherein the line provides fluid to the device stage.

32. The stage assembly of claim 30 where the line carries electrical current.

33. An exposure apparatus including the stage assembly of claim 22.

34. A device manufactured with the exposure apparatus according to claim 33.

35. A wafer on which an image has been formed by the exposure apparatus of claim 33.

36. A method for making a stage assembly that moves a device along a Y axis, the method comprising the steps of:

providing a device stage that retains the device;

connecting a stage mover assembly to the device stage, the stage mover assembly moving the device stage along the Y axis;

supporting the device stage along a Z axis with a first follower frame; and

connecting a first follower mover to the first follower frame, the first follower mover moving the first follower frame along the Y axis.

37. The method of claim 36 wherein the first follower mover moves the first follower frame substantially concurrently with the device stage along the Y axis.

38. The method of claim 36 wherein the step of supporting the device stage includes the step of providing a pair of opposed stage fluid bearings that support the device stage relative to the first follower frame and allow the device stage to move along an X axis relative to the first follower frame.

39. The method of claim 36 wherein the step of supporting the device stage includes the step of providing a first follower guide, a first pair of opposed, guide fluid bearings and a second pair of opposed, guide fluid bearings, the guide fluid bearings supporting the first follower frame relative to the first follower guide along an X axis and the Z axis and allowing for movement of the first follower frame relative to the first follower guide along the Y axis.

40. The method of claim 36 wherein the step of supporting the device stage includes the step of supporting the device stage near a first table side of the device stage with the first follower frame.

5 41. The method of claim 36 further comprising the step of supporting the device stage along the Z axis with a second follower frame.

42. The method of claim 41 further comprising the step of connecting a second follower mover to the second follower frame, the second follower mover moving the second follower frame substantially concurrently with the device stage along the Y axis.

10 43. The method of claim 41 wherein the first follower frame supports the device stage near a first table side of the device stage and the second follower frame supports the device stage near a second table side of the device stage.

44. The method of claim 41 wherein the first follower frame and the second follower frame support the device stage in a kinematic manner.

15 45. The method of claim 36 wherein the step of providing a device stage includes the step of providing a first table section and a second table section that is movable relative to the first table section to separate the device stage.

20 46. The method of claim 45 further comprising the steps of retaining a first device with the first table section and retaining a second device with the second table section.

47. The method of claim 36 further comprising the step of connecting a line from the first follower frame to the device stage.

48. The method of claim 47 wherein the step of connecting a line includes the step of the line providing fluid to the device table.

49. The method of claim 47 where the step of connecting a line includes the step of the line carries electrical current.

50. A method for making an exposure apparatus that forms an image on a wafer, the method comprising the steps of:

- 5 providing an irradiation apparatus that irradiates the wafer with radiation to form the image on the wafer; and
 providing the stage assembly made by the method of claim 36.

51. A method of making a wafer utilizing the exposure apparatus made by the method of claim 50.

10 52. A method of making a device including at least the exposure process: wherein the exposure process utilizes the exposure apparatus made by the method of claim 50.